

Important Advances in Clinical Medicine

Epitomes of Progress—Pathology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in Pathology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in Pathology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Pathology of the California Medical Association and the summaries were prepared under its direction.

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Paroxysmal Cold Hemoglobinuria—1975

PAROXYSMAL COLD HEMOGLOBINURIA (PCH) is a rare disease characterized by acute intermittent massive hemolysis, frequently with hemoglobinuria, following exposure of the patient to cold. Formerly associated with syphilis, it has recently been recognized as an acute transient disorder following certain viral infections.

The diagnosis should be considered in any patient who presents with an acute hemolytic anemia and has a history of a recent viral infection, especially measles, mumps or a "flu" syndrome. Confirmation of the diagnosis depends on the demonstration of an autohemolytic bithermal antibody by the Donath-Landsteiner test: Blood is drawn from the patient and is immediately chilled. If the autoantibody against the bloodtype P antigen is present, it will attach to the patient's erythrocytes at the low temperature, followed by the early-reacting components of the complement

system. On warming the blood to 37°C, the complement sequence is completed and lysis occurs. *In vivo* hemolysis occurs in the same fashion.

On admission of the patient, there may be a falling hematocrit and incipient cardiac failure. Blood selected for transfusion will usually be incompatible on crossmatch because of anti-P specificity of the antibody. Donors lacking this antigen (phenotype p) are extremely rare and it may be necessary to carry out transfusion in the patient with "least incompatible" blood, carefully prewarmed to 37°C, to save the patient's life.

Fortunately, this form of PCH is self-limited and if the patient is adequately supported during the acute hemolytic phase, the prognosis is good for complete recovery.

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REFERENCES

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Swisher SN: Cryopathic hemolytic syndromes, *In* Williams WJ, Beutler E, Erslev AJ, et al (Eds): *Hematology*. New York, McGraw-Hill Book Company, 1972, pp 498-502